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PREFACE.

THE Committee of Correspondence and Papers, to whom the preparation of their annual Volume is committed by the Society, present the following summary of the Inventions and Improvements rewarded during the last Session, and described in this, the 45th Volume of their Transactions.

In the class of AGRICULTURE, the Silver Ceres Medal has been awarded to PETER GREEN, Esq. of *Crookham*, for his Improved Waggon for conveying Lambs to market.

It is well known that butchers' meat is much affected in flavour, in resistance to putrefaction, and probably, also in wholesomeness, by the state or treatment of the animal for a few days previous to its being killed. The fatigued condition in which many arrive at the market is detrimental alike to the interest of the grower and of the consumer; and, as the butchers of the metropolis will give a higher price for lambs conveyed in carriages than for those that are driven to market, the invention of the best waggon for this purpose is a matter of considerable importance. Mr. Green's waggon conveys from forty-five to fifty lambs at a time, arranged in two tiers, the animals in each tier being supported from pressing injuriously against each other, by moveable rails or partitions.

The Silver Ceres Medal has been awarded to Mr. W. THOROLD, of *Great Melton*, near *Wymondham*, for his Machine for slicing Turnips.

The hazard which bullocks and other large cattle incur of being choked when fed with entire turnips, has led to the very general practice of slicing or dividing them. The machines employed for this purpose, however effectual, are costly, in the first instance; are liable to be out of repair, and are not moveable from place to place, on account of their bulk. The machine invented by Mr. Thorold is of great simplicity, and consequently cheap; it is not liable to be put out of order, and may be repaired, when necessary, by the village blacksmith or carpenter; and, finally, is so portable, that a man, or a single horse, in a light cart, may convey it from place to place, as convenience may direct. It consists essentially of a grating, the bars of which are knives fixed horizontally in a bench or tressel, and of an iron bar carrying a wooden mallet. The turnip is laid on the knives, and by a smart blow of the mallet is forced through them, being at the same time divided into pieces of convenient size, which are readily discharged, in consequence of the divergent position of the knives. The machine works very expeditiously, and the most satisfactory testimonials have been laid before the Committee of its performance.

The Large Silver Medal has been awarded to W. Withers, Jun. Esq. of *Holt*, in *Norfolk*, for his Experiments on the Effects of Manure on young Plantations of Forest Trees.—That the growth of young plantations is favoured by keeping the ground free from weeds, is generally acknowledged, but, from the want of fair comparative experiments, the amount of advantage is not known with any degree of precision, and is, probably, by most gentlemen, under-rated. Hence carelessness and mistaken economy are too often allowed to interfere so as to prevent, either from the beginning or after the first year, the performance of this very advantageous practice. In like manner, the benefit of marling poor shallow sandy soils, either previous to or soon after planting, has been known and experienced in a few insulated cases. These instances, however, of success do not appear to have attracted much notice, the particulars not having been published, and the formers of such plantations not having instituted any comparative experiments to show the precise benefit derived from the adoption of this practice. Much credit, therefore, is due to Mr. Withers, who for the last sixteen years has been going on with a course of judicious experiments directed to the two points above mentioned. This gentleman appears to have demonstrated, that when a plantation is made on poor light land, and the trees are neglected during the first four or five years, not only a large proportion of them will die, but those which survive will be so checked in their growth, that no subsequent care will restore them to a state of complete vigour. He therefore attaches great importance to the *early* treatment of young trees, which should be encouraged to establish themselves speedily in their new situation, and to acquire, as rapidly as possible, habits of luxuriant growth. For this purpose, besides paring, and burning, and trenching the soil previous to making the plantation, he spreads on it marl and farm-yard manure, as for a common agricultural crop, and at the same time keeps the surface perfectly free from weeds, by hoeing, till the young trees have completely covered the ground. The progress which they make under this treatment is so extremely rapid, as apparently to justify, in an economical point of view, the extraordinary expenses which attend it. In three years, even oaks and other usually slow-growing forest trees have covered the land, making shoots of three feet in a season, and throwing out roots well qualified by their number and length to derive from the subsoil abundant nourishment, in proportion as the surface becomes exhausted.

The Gold Ceres Medal has been voted to WALTER LONG, Esq. of *Preshaw House,* near *Alton, Hants,* for planting one hundred and ninety-five acres with Forest Trees.—This gentleman's plantations were made in the year 1821, and in the four following years, upon soil of a chalky and gravelly quality. Various difficulties and mortifying failures occurred, but were overcome by patience and sagacious attention.

The Gold Ceres Medal has been awarded to CHARLES CALLIS WESTERN, Esq. M. P. of *Felix Hall, Essex*, for his Long Anglo-Merino Wool.

The wool that may be considered as the characteristic produce of this country is that which has a long staple, and is known by the common name of Long or Combing Wool. It is the material of worsted, and the basis of several of the fabrics made at Norwich. It is grown chiefly in the midland and eastern counties, particularly in Lincoln, Huntingdon, Northampton, and Leicester, and is considered by Mr. Western to depend chiefly on the vigorous and luxuriant state of the animal, arising from the richness of the pasturage, and the care that has been taken to improve the breed for a long series of years.

He considers that his theory is well founded from the well known fact that long-woolled English sheep, when taken to France and other European countries, always degenerate, the wool becoming shorter, brittle, and wiry, in consequence of inferior feeding. Our long-woolled sheep are also remarkable for the fatness of the carcass; and the high price that is given for well-fed mutton is the principal source to which the farmer looks for his remuneration.

The defects of long wool, as compared with the finer varieties of short wool, are the thickness or coarseness of the fibre, and the harshness of its feel; the manufacturers are, therefore, in their finer fabrics, obliged to intermix with the long wool the softer kinds of short wool, spun silk, and the downy fur of the Canadian Buffalo, the Peruvian Vicugna, and the Cashmeer-shawl Goat.

Mr. Western, from observing the fineness and luxuriance of the Merino fleece, was of opinion, that by care and rich feeding, the wool might be lengthened so as to become fit for the comber without much diminution of its fineness and softness; and, if this were accomplished, at the same time that the carcass was not deteriorated, the result would be a breed of sheep sufficiently profitable to the farmer, and the wool of which would be highly acceptable to the manufacturer. He accordingly instituted a series of experiments with this view, which have turned out very successful, and have also demonstrated a curious physiological fact, that the wool of Anglo-merino sheep, when kept in high condition, will continue growing for two, and even for three, years, the fibres showing no tendency to separate at the end of each year's growth. It appears that the wool obtained by shearing the sheep biennially will be long enough to be combed without any waste, and will afford a raw article for our manufactures unquestionably better than any of the varieties of long wool now in the market.

The Gold Ceres Medal has been awarded to Mr. C. Poppy, Jun. of *Witnesham*, near *Ipswich*, for his mode of preventing Crops of Turnips from being devoured by the Fly.

Turnips are the basis of that improved mode of husbandry which originated in Norfolk, and has now been adopted in most of the light lands in the kingdom. But a small insect, called the Turnip Fly, destroys the plants on their first coming up, occasioning large bare spaces in the fields, and not unfrequently carrying off the entire crop. When this happens at so late a period of the year as to preclude the possibility of taking the chance of a subsequent sowing, the plans of the farmer are deranged, and he is often obliged, at a great sacrifice, to dispose of part of his live-stock for want of food for them.

The Society have for several years offered a premium for the best mode of protecting turnip crops from this their natural enemy; and Mr. Poppy's plan, corroborated as it is by actual experiment, and involving but little expense, appears well worthy of more extended trial, and, it is hoped, of general adoption.

When two kinds of turnip are sown in the same field, those which are the most tender and succulent will chiefly suffer from the fly. A like distinction will be observed if only one kind is sown, but the seed is unequally scattered; those plants that rise in clusters protect one another from the sun and air, and offer a more agreeable food to the fly than those which come up at greater respective distances. Reasoning from these well-known facts, Mr. Poppy was induced to drill four acres on his own farm, employing one pint of Swedish turnip seed per acre for those rows intended to stand for a crop, and half a peck of common turnip seed on the rows alternating with the former, and intended to attract the fly from them. The result was, that the thin-sown Swedish turnips were not sensibly injured by the fly, while the thick-sown ones were quite black with swarms of this insect. After the Swedish turnips had got into the rough leaf, the danger from the fly being over, the rows of common turnips were ploughed up, and the crop being afterwards managed in the usual way, turned out very good, whilst all the other turnips in the parish, sown at the same time in the usual manner, totally failed. Another experiment was made in the neighbourhood of Blandford, in Dorsetshire, the result of which was the only good crop of turnips obtained during the last year in that part of the country.

In the class of MECHANICS, a Large Silver Medal has been voted to Mr. W. J. Hood, first lieutenant of H. M. S. Hyperion, for an Improved Ice Saw.— The vessels employed in the Greenland fishery, and others that navigate the Polar seas, are furnished with large saws for the purpose of cutting through the ice, and thus relieving the ship when frozen up. The lives of the crew not unfrequently depend on the expedition with which a passage can be cut so as to disengage the vessel before the further accumulation of ice renders it an impossible undertaking. The saw, with a weight suspended to it, is introduced by means of a hole broken through the ice, and is suspended by a rope passed over a pulley fixed to a triangle. A party of a dozen or more men run out and back again with the rope, and thus move the saw up and down, till it has cut its way so far as to hang perpendicularly from the pulley. The triangle is then removed a foot or two farther, and the sawing recommences, the services of nearly the whole of the crew being required in this laborious undertaking. Lieutenant Hood proposes to suspend the saw by a light sledge, and to work it by the power of only two or three men, at the end of a lever: a bar called a propeller is fixed on the lever between the fulcrum and the saw, the other end resting on the surface of the ice, and so adjusted that each motion of the lever shall produce a cut of a given length, and at the same time, by means of the propeller, push the sledge on so that the teeth of the saw shall be always in contact with the ice.

A Large Silver Medal has been voted to Mr.

JOSEPH HILLMAN, of *Deptford*, for his Sliding Rudder, to prevent injury to this part when a vessel tails on a sand bank, or strikes the ground when riding at anchor in a heavy gale with a rolling sea.—A similar Medal has been voted to Mr. J. WEEKES, of the *Royal Dock-yard, Chatham*, for his mode of preventing the Blocks, technically called Dead Eyes, to which the Shrouds are fastened, from being torn away when the Mast goes overboard; and a Silver Medal has also been voted to Mr. JAMES HOOKEY, Midshipman in the R.N. for his Improved Ship's Log.—Two Silver Vulcan Medals have also been given, the one to Mr. BOTHWAY, Gunner R. N. for his Improved Cat-block, and the other to Mr. J. B. KOOYSTRA, Lieutenant R. N. for his mode of Securing the Stopper of a Chain Cable.

The real value of these inventions can only be adequately estimated by persons conversant with shipping, and especially with the naval service; but, as some of them have met with the approbation of the Navy Board, as respectable certificates have been produced in favour of others, and as all of them are invented by persons professionally familiar with nautical affairs, the Society have thought themselves justified in recommending them by their rewards to the attention of the public.

The Large Silver Medal has been voted to J. HAWKS, Esq. of *Upper Thames-street*, for his Revolving Light for Steam-boats.—A fatal accident that occurred on the coast of Scotland, by two steam-vessels running aboard of each other, suggested to Mr. Hawks the necessity of distinguishing this class of shipping from sailing vessels when under way at night. He proposes that a frame like two arms of a windmill should be fixed on a pivot projecting from the chimney, in such a manner as to receive a movement of rotation from any convenient part of the steam-engine. At the end of each arm is suspended a cylindrical lanthorn, so that the apparatus will display two opposite lights moving round a centre, and describing a circle the plane of which is at right angles to a line drawn from head to stern of the vessel.

The Gold Vulcan Medal has been awarded to ROBERT COWEN, Esq. of *Carlisle,* for his Adaptation of a Syphon to Draining a Stone Quarry.

Theoretically speaking, water will rise in the short leg of a syphon to a height equal to the atmospheric pressure, or about thirty-two feet, and therefore pits and quarries so situated as to have a sufficient outfall might, it would seem, be drained by means of a syphon, so far that the water shall not rise higher in them than within thirty-two feet of the surface. But when this plan is attempted to be reduced to practice, it will be found, that a syphon will not long continue to act, if it has to raise water more than twelve or fourteen feet. The reason of this is, that the air which all common water contains begins to separate from that fluid as it rises under diminished pressure through the short leg of the syphon, till at length the angle of the syphon is filled with air, and the current of water is interrupted. Mr. Cowen places a box at the upper angle of the syphon, into which all the air separated from the water rises, and the application of a forcing pump for a few minutes once or twice a day drives the air out of the box into the atmosphere. By this means the utility of an extremely simple and cheap machine is much extended, and it will doubtless be applied in many situations to draining stone and slate quarries, with the same complete success which has attended its use by Mr. Cowen.

The Large Silver Medal has been voted to Mr. J. P. PAINE, 39, *High-street, Bloomsbury,* for his Mode of Illuminating Church and other Turret Clocks.

The habits of the people of this Country, together with the shortness of the day in the Winter season, cause a large proportion of the population in the metropolis, and other large towns, to be out of doors during many hours of darkness. For the accommodation of such, the streets and roads have been lighted, and attempts have been made with more or less success, to illuminate the dial-plates of church and other public clocks. In some cases, this has been done by throwing a strong light from a reflector on the surface of the dial; in others, the plan resorted to has been, to form the dial-plate of ground-glass, to paint the figures thereupon in opake colours, and to inclose behind the plate a powerful lamp, so as to render it sufficiently distinct to passers-by.

Mr. Paine has made his dial-plate of transparent red glass, and the figures of cast metal; he has also avoided all junctures in the glass which might interfere with a clear view of the hands, and has thus obtained a more distinctly visible dial-plate than any others that have hitherto been exhibited. The light employed is a powerful jet of coal-gas, and the cock of the gas-pipe is so connected with the train of the clock, that it will nearly close at any given hour in the morning, and continue in that state till a given hour in the evening, when the pipe will be again completely open, and a full light will be produced. There is, therefore, no necessity to send a man up to the clock twice a day, in order to extinguish and to light the lamp, for the flame is perpetual; only, during the day, when it is not wanted, it is greatly reduced, in order to avoid unnecessary expenditure of gas. Two of the dials of St. Giles's Church have been fitted up in the above manner by Mr. Paine.

The Silver Vulcan Medal has been awarded to Mr. G. SMART, of *Lambeth,* for his wrought Iron Trussed Girder. The girder consists of a bow or arch of wrought iron, with a string of the same material, and blocks of well-seasoned hard wood are inserted between the bow and string, in order to prevent the arch from being crushed in by any general or partial strain.

The Large Silver Medal has been awarded to Mr. JAMES PERKINS, of *Stanstead,* for a Cap for a Malt-kiln. The vapour that arises from malt, when drying on the kiln, is discharged into the air through a hood or cowl, which turns round by means of a vane, so that the opening shall always be in the opposite direction to that from which the wind blows. But the aperture of the common cowl always remains of the same magnitude, and therefore the draft through the fire admits of no accurate regulation. Mr. Perkins's cap possesses all the advantages of the cowl, with the additional one of regulating the opening, and consequently the draft. Malt-houses are frequently set on fire in making high-dried malt, because the fire is not perfectly manageable. The cap invented by Mr. Perkins obviates this very serious inconvenience, and has been tried for some months by Mr. Felix Booth, the distiller, with complete success.

The Silver Vulcan Medal has been awarded to W. J. CHARLTON, Esq. of the *War-office,* for an improved Closet to keep Papers in.

The accumulation of documents in the public offices, especially in that to which Mr. Charlton belongs, is enormous, and the mass of those that are required to be in constant readiness for reference, on various occasions, is so great, as to require more space than can well be spared. The ingenuity of Mr. Charlton has been very laudably and successfully exerted in the contrivance of closets or presses with swinging shelves, capable of receiving a great multitude of papers, and of displaying them, when required, in a very convenient manner. The plan has been adopted in the War-office, and in some other public departments, and will be found equally advantageous in the counting-houses of Merchants, the offices of Solicitors, private libraries, and cabinets of Natural History.

The Large Silver Medal has been voted to W. CAFFIN, Esq. of *Woolwich,* for a very simple, ingenious, and well-contrived machine, which, according to the scale on which it is made, may be applied to filling cartridges, its original destination, or to measuring grain, seeds, and all other articles that are estimated by the levelled or *struck* measure.

The sum of Five Pounds has been voted to Mr. JONAS THURRELL, of *Camden Town,* for an improvement in that variety of mangle in which the alternate motion of the box is produced by the continuous movement of the handle in the same direction. The improvement consists in the simplicity of the mechanism by which this conversion of mo tion is effected.

The sum of Five Pounds has also been given to

Mr. ADAM REID, of *Woolwich*, for an improvement in a Compensation Pendulum of his construction, formerly rewarded by the Society. The compensation consists in supporting the weight of the pendulum on a zinc cylinder, which receives the end of the steel rod of the pendulum, and is itself supported on the nut at the bottom of this latter. When, therefore, the steel rod expands downwards by heat, the zinc cylinder expands upwards in the same proportion, provided the relative lengths of the steel and zinc are duly adjusted. The improvement consists in forming an external screw on the top of the zinc cylinder, which fits a hollow screw in the lower part of the weight, and thus allows the relative lengths of the zinc and steel to be accurately adjusted, in case they had not been so at first.

The Silver Vulcan Medal has been voted to Mr. ED. BURN, of *Kirby-street*, *Hatton-garden*, for his application of a rolling-press, instead of the common process of beating printed sheets, in order to make them quite smooth, previously to their being bound. For this purpose the sheets are made up into packets of two or three, with a leaf of tin plate between each packet, and are then passed once between a pair of heavy iron rollers. The momentary but strong compression which they thus receive, makes the paper quite smooth, and the ink is less likely to set off than it is during the long continued beating which is usually employed for the same purpose. The saving of time thus occasioned is very great, and the superior degree of compression is such, that a rolled book is reduced to five-sixths of the thickness that the same book would occupy if beaten.

The Silver Vulcan Medal has been voted to Mr. G. MACHIN, of *Wolverhampton,* for his Expanding Key for a Lock.

The Large Silver Medal has been awarded to Mr. J. BOWER, for an improved Lathe Chuck for Engine Turners, which, by means sufficiently simple, but which cannot be described by mere words, is capable of producing right lines and circular arcs of any degree, with a continued instead of an alternate motion of the wheel.

The Silver Vulcan Medal has been awarded to Mr. PACKHAM, of *Maidstone,* for a Self-adjusting Rupture-truss, particularly adapted to the use of those who, from the nature of their occupation, are obliged to raise heavy weights.

The Gold Vulcan Medal has been voted to Mr. G. GIBSON, of Birmingham, who, being himself blind, has invented a set of types, whereby he can write down his thoughts, perform arithmetical operations, and communicate the results of them, not only to those who can see, but to persons labouring under the same severe privation with himself. His apparatus consists of a number of cubes; on the top of which are formed, in relief, sufficiently high to be distinguishable by the touch, the figures of the letters, of the numerals, and of other characters that he may have occasion for. On the bottom of each cube, the figure that it bears on the top is represented by needle points, projecting about a tenth of an inch. If, therefore, a piece of paper be laid on a hard flat cushion, and one of the cubes formed as above described be pressed upon it, the points will penetrate the paper, and will form on the underside a visible, and, at the same time, a tangible representation of the figure, by means of the burs or prominences, wherever the points have passed through. The evenness and continuity of the writing are secured by a square frame and guide bars.

Another invention for the use of the blind, to which the Large Silver Medal was awarded, has been sent to the Society by DON JAIME ISERN, a gentleman of *Catalonia*, who, like Mr. Gibson, has been blind from his early childhood. This gentleman is a composer of music, and has invented a very ingenious machine, whereby he can write his compositions in the ordinary musical characters.

The Silver Vulcan Medal has been awarded to Mr. W. THOROLD, of *Melton*, near *Wymondham*, for an improved application of a Reel to the apparatus for communicating with a stranded vessel, calculated to deliver the rope more equably, and with less resistance to the shot by which it is carried, than when coiled or faked in the usual manner.

The sum of Five Guineas has been awarded to Mr. J. CALLAGHAN, of *Carlisle-lane, Lambeth*, for his Face-guard for Smelters, and other workers in hot metal. The guard is a kind of veil of wire gauze, which hangs before the face, and may be turned back over the hat when not in use. It is, perhaps, not quite new, as similar contrivances are partially in use in the laboratories of experimental chemists, for the purpose of protecting the eyes from injury by light and heat, when examining the progress of an operation in a powerful furnace. Several members of the Society, proprietors of works in which smelting, forging, and other operations on large masses of hot metal are continually going on, stated it as a general observation, and one which came within their personal knowledge, that the eyes of the workmen engaged in these operations, are very liable to be seriously injured in the course of a few years. The present invention has originated with a person who is himself a workman; and, if the Society's reward should tend to repress that carelessness which is gradually but perpetually inflicting severe and irreparable injury on a highly valuable and meritorious class of the community, it will have been bestowed agreeably both to the spirit and the letter of the Institution.

In the class of CHEMISTRY, two sums of Twenty Pounds each have been severally voted to Mr. G. Field, of *Syon-hill-park*, and to Mr. Luning, of *Apothecaries'-hall*, for their respective methods of freeing lac-varnish from the reddish brown colour which is natural to it, and which precludes its application to pictures, although its hardness, toughness, and little liability to crack, would otherwise render it highly valuable to artists. The Society have for several years offered a premium to the person who should accomplish this object, and have now the pleasure of rewarding two methods almost equally effectual.

Mr. Field dissolves the lac in spirit of wine, and destroys the colour by the repeated and careful addition of chlorine in vapour, and of chloride of potash.

Mr. Luning to a solution of lac in spirit of wine adds animal charcoal with the same result.

The sum of Five Guineas has been voted to Mr. C. Cameron, of *Glasgow*, for his mode of preparing an Alkaline Ley for the use of the dyers of Turkey red, a beautiful and durable colour for cotton, the receipt for which was in 1761 purchased by the Society for one hundred and fifty pounds, and communicated by them to the public.

In the class of MANUFACTURES, two sums, one of Twenty Guineas, and the other of Ten Guineas, have been awarded to Messrs. Muir, of *Greenock*, for their Plat and Hats of British Leghorn, and the second reward of Five Guineas has been voted to Mr. LONG, of *Claydon*, in *Suffolk*, for Fine Plat. These sums form the continuation of a long series of honorary and pecuniary rewards, devoted by the Society to the encouragement of the manufacture of hats and bonnets of straw, platted and knit in the manner of those imported from Leghorn.

It is hardly necessary to repeat what has been said on previous similar occasions, respecting the manufacture of straw plat. It is not at present produced, nor is it likely ever to be produced, by machinery. It remains, therefore, and long may it remain, the sacred patrimony of those who have little else to depend on, in order to eke out the scanty earnings of agricultural labour. It is the peculiar occupation of females and children, carried on in the midst of their families, and remote from the direful contamination of morals which almost always attends the assemblage of young persons in crowded manufactories, however regulated. The Society have long suggested the possibility of retrieving the manufacture of common or Dunstable straw plat, extinguished at the close of the late war by the large importation of a superior fabric from Italy, by imitating with success these products of Italian skill. The first rude attempts were rewarded with liberality; and useful information on the growth of the straw, its bleaching, and its manufacture, were sought, obtained, and published by the Society. Last year produced specimens which met with a ready sale as real Italian, from the average qualities of which they could not be distinguished; and this year the Society have received specimens which challenge the Italian fabrics to equal competition. The Society may now transfer its funds to other objects, in full confidence that the ladies of England will do justice to their countrywomen.

The Silver Vulcan Medal and Five Guineas have been awarded to Mr. JAMES, of *Lambeth*, for his mode of opening Horn.

In the common process, the horn, after being slit longitudinally, is held over an open fire till sufficiently soft to yield without cracking to the action of screws and wedges, and presses, that are employed in squeezing it flat. The previous heating is a long operation, and one which requires great practice to perform in an effectual manner without singing the thinner parts of the horn. The candidate proposes, and, on a small scale has practised, a more expeditious, safe, and equally effectual method of heating the horn, by putting it into a hot hollow cone of iron, and then compressing it, by driving in an iron plug, heated also.

In the class of COLONIES and TRADE, the Large Gold Medal has been voted to FRANCIS COLLISON, Esq. of the *Cape of Good Hope*, for Wine of superior quality, imported from that Colony.

The Premium was offered to stimulate the attention of the Colonists to the improvement of that article, which the soil and climate of the Cape of Good Hope seems to point out as its most profitable produce. Some hundred pipes have been imported by the house of Collison and Starkey, of quality equal to the sample cask sent to the Society, and which, on examination by wine-merchants and other competent judges, was pronounced to be nearly equal to Teneriffe wine.

With regard to Mr. Hawks's revolving light for steam-boats (see p. xiv), it appears, on subsequent inquiry, that a plan similar to the above, but differing in the mode of securing the vertical position of the lanthorns, was proposed by Mr. Day, of *Kingsland-crescent*, and was communicated by him to the Editor of the "Register of the Arts and Sciences," in which work it appeared nearly six months previous to the date of Mr. Hawks's communication to the Society. This latter gentleman made the first model of his apparatus while he was residing in Guernsey; and there is every reason to believe that the two plans, though similar, are each original inventions.